

# MONTANA

## Teachers' Retirement System



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## BIENNIAL REPORT

FISCAL YEARS ENDED JUNE 30, 1989 and 1990

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Stan Stephens, Governor

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# TEACHERS' RETIREMENT SYSTEM



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STAN STEPHENS, GOVERNOR

## STATE OF MONTANA

DAVID L. SENN, EXECUTIVE SECRETARY

MARY E. HARRINGTON, ASST EXECUTIVE SECRETARY

The Honorable Governor Stan Stephens  
Capitol Building  
Helena, MT 59620

Dear Governor Stephens:

In accordance with 19-4-201 MCA the Teachers' Retirement Board is pleased to submit to you the Biennial Report for the period ending June 30, 1990, the 54th year of operation of the system.

The Teachers' Retirement System was established by state law in 1937. The system has grown from an initial enrollment of 3,367 members to over 15,000 active contributing members with assets in excess of \$680 Million. The system has remained financially healthy and actuarially sound with the legislature continuing to provide an even and dependable funding level.

The board looks forward to the challenges of the future to meet the retirement needs of Montana's educators.

Sincerely,

A handwritten signature in black ink, appearing to read "David L. Senn".  
David L. Senn  
Executive Secretary

DLS/dm

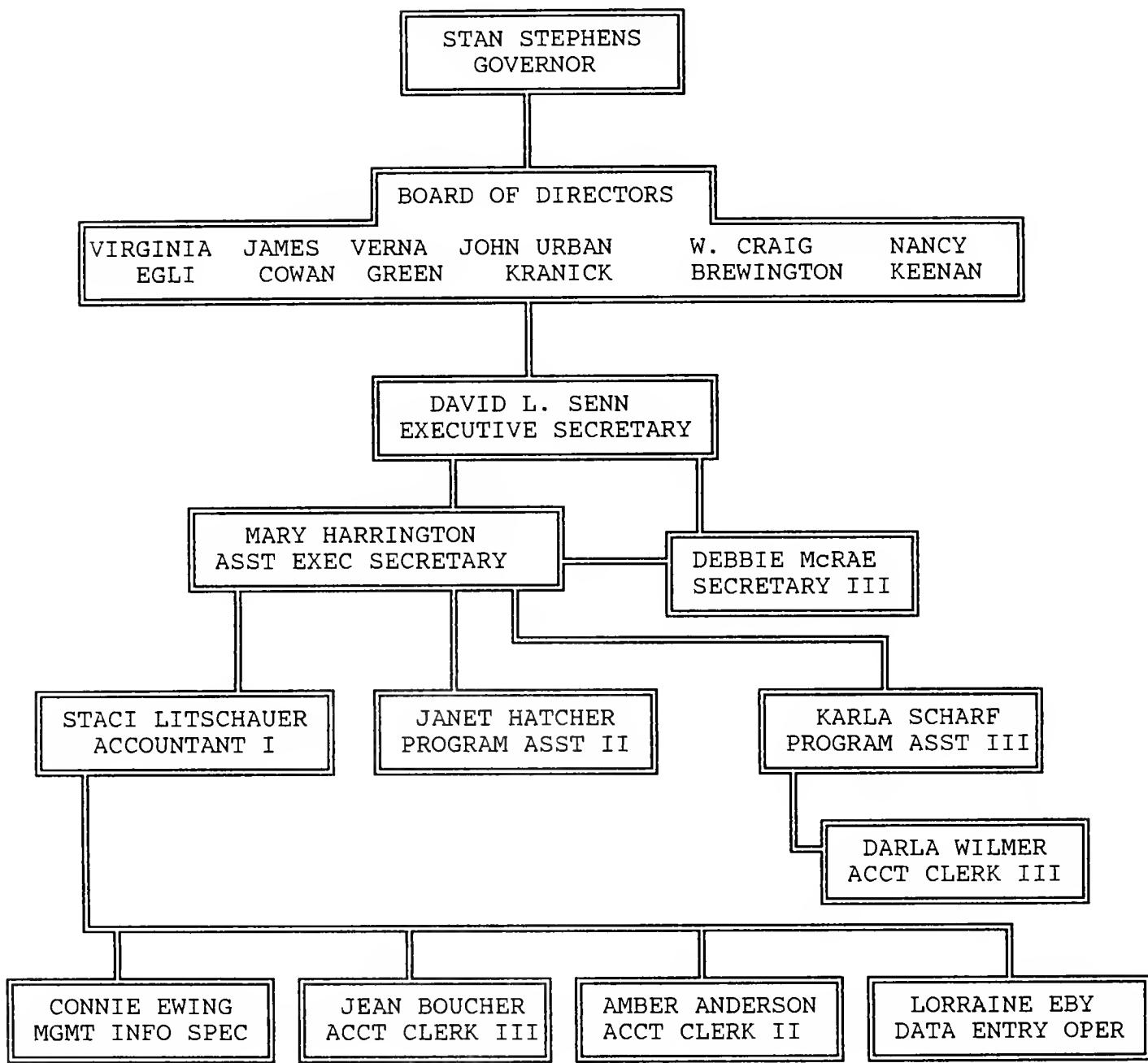


Deer Park School in Flathead County. Teacherage on the right. Columbia Range in background.  
Mel Ruder, Photographer. Picture compliments of Montana Historical Society, Helena.

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## ORGANIZATIONAL CHART



**THE TEACHERS' RETIREMENT SYSTEM  
DIRECTORS AND OFFICERS**

**BOARD OF DIRECTORS**

JAMES COWAN CHAIRMAN	07-01-88 to 07-01-92	P.O. Box 369 Seeley Lake, MT 59868
VIRGINIA EGLI VICE CHAIRMAN	07-01-87 to 07-01-91	1024 N. River Avenue Glendive, MT 59330
W. CRAIG BREWINGTON	07-01-90 to 07-01-94	Hellgate Elementary 2385 Flynn Lane Missoula, MT 59802
VERNA GREEN	07-01-89 to 07-01-93	P.O. Box 1084 Helena, MT 59624
JOHN U. KRANICK	07-01-89 to 07-01-93	116 River View C Great Falls, MT 59404
NANCY KEENAN	Ex Officio	Superintendent of Public Instruction State Capitol Helena, MT 59620

**ADMINISTRATIVE OFFICERS**

DAVID L. SENN	Executive Secretary
MARY L HARRINGTON	Assistant Executive Secretary

**PROFESSIONAL CONSULTANTS**

HENDRICKSON, MILLER & ASSOCIATES INC.	Actuarial Consultants Helena, MT 59624
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1865—Deer Lodge, Montana. One of the first school houses in Montana. Picture compliments of Montana Historical Society, Helena.



1865—School house at Deer Lodge, Montana. Picture compliments of Montana Historical Society, Helena.

**FINANCIAL SECTION**

**\*BALANCE SHEET**

**\*STATEMENT OF REVENUES, EXPENSES  
AND CHANGES IN FUND BALANCE**

**\*NOTES TO FINANCIAL STATEMENTS**

**TEACHERS' RETIREMENT SYSTEM  
BALANCE SHEET  
AS OF JUNE 30, 1989 AND 1990**

	<u>1990</u>	<u>1989</u>
<b>ASSETS</b>		
<b>Current Assets:</b>		
Cash	\$ 2,148,016	\$ 3,543,688
Accounts Receivable	6,488,772	4,884,700
Interest Receivable	<u>13,838,642</u>	<u>12,783,179</u>
Total Current Assets	<u>22,475,430</u>	<u>21,211,567</u>
<b>Investments (Note A):</b>		
Mortgages	\$ 51,386,395	\$ 53,387,042
Securities	457,153,058	436,111,318
Common Stock	120,485,519	110,008,916
Other Investments	33,002,182	
Land and Buildings	193,844	193,844
Less: Accum. Depreciation	(75,901)	(72,137)
Total Investments	<u>662,145,097</u>	<u>599,628,983</u>
<b>Other Assets:</b>		
Intangible Assets	\$ 4,384	\$ 4,481
Equipment	72,077	57,822
Less: Accum. Depreciation	(34,121)	(26,954)
Deferred Losses	<u>5,018,846</u>	<u>5,662,453</u>
Total Other Assets	<u>5,061,186</u>	<u>5,697,802</u>
<b>TOTAL ASSETS</b>	<b>\$689,681,713</b>	<b>\$626,538,352</b>
<b>LIABILITIES</b>		
Accounts Payable	\$ 295,881	\$ 1,755,097
Accrued Expenditures	636	2,228
Payroll Clearing	920	5,016
Compensated Absences (Note A)	23,730	22,670
Accountability for Adv. (Note A)	156,549	
Property Held in Trust	(21,150)	(1,801)
<b>TOTAL LIABILITIES</b>	<b><u>456,566</u></b>	<b><u>1,783,210</u></b>
<b>NET ASSETS AVAILABLE FOR BENEFITS</b>	<b><u>\$689,225,147</u></b>	<b><u>\$624,755,142</u></b>

The accompanying notes are an integral part of these financial statements.

**TEACHERS' RETIREMENT SYSTEM  
BALANCE SHEET  
AS OF JUNE 30, 1989 AND 1990**

**FUND BALANCE (Note C)**

	<u>1990</u>	<u>1989</u>
Pension Benefit Obligation:		
Retirees and beneficiaries currently receiving benefits	\$ 475,652,160	\$ 435,037,090
Terminated employees not yet receiving benefits	26,815,778	27,232,892
Current employees:		
Accumulated employee contributions	340,092,144	310,247,203
Employer-financed:		
Vested	359,965,494	331,689,065
Nonvested	<u>4,266,434</u>	<u>3,286,649</u>
Total Pension Benefit Obligation	\$1,206,792,010	\$1,107,492,889
Unfunded Pension Benefit Obligation	<u>(517,566,863)</u>	<u>(482,737,757)</u>
<b>TOTAL FUND BALANCE</b>	<b>\$ 689,225,147</b>	<b>\$ 624,755,142)</b>

The accompanying notes are an integral part of these financial statements.

**TEACHERS' RETIREMENT SYSTEM  
STATEMENT OF REVENUES, EXPENSES, AND  
CHANGES IN FUND BALANCE  
FOR THE FISCAL YEARS ENDED JUNE 30, 1989 AND 1990**

	<u>1990</u>	<u>1989</u>
<b>OPERATING REVENUES</b>		
Membership Contributions	\$ 30,549,466	\$ 28,995,301
Employer Contributions	30,646,428	28,657,283
Investment Earnings	<u>63,748,295</u>	<u>58,742,650</u>
Total Operating Revenues	\$124,944,189	\$116,395,234
<b>OPERATING EXPENSES</b>		
Benefit Payments	\$ 51,033,464	\$ 47,214,491
Withdrawals	8,561,498	5,213,596
Administrative Exp. (Note F)	<u>687,060</u>	<u>654,303</u>
Total Operating Expenses	\$ 60,282,022	\$ 53,082,390
<b>OPERATING TRANSFERS IN</b>		
Public Employees Retirement System	<u>160,738</u>	<u>240,747</u>
<b>OPERATING INCOME</b>	<b>\$ 64,822,905</b>	<b>\$ 63,553,591</b>
<b>BEGINNING FUND BALANCE</b>	<b>624,755,142</b>	<b>561,331,968</b>
Adjustments to Fund Balance Prior Year Adjustments	<u>(352,900)</u>	<u>(130,417)</u>
<b>ENDING FUND BALANCE</b>	<b><u>\$689,225,147</u></b>	<b><u>\$624,755,142</u></b>

The accompanying notes are an integral part of these financial statements.

**TEACHERS' RETIREMENT SYSTEM  
NOTES TO THE FINANCIAL STATEMENTS  
FISCAL YEARS ENDED JUNE 30, 1990 AND 1989**

**NOTE A. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Basis of Accounting**

The Teachers' Retirement System maintains its accounts on the full accrual basis of accounting.

**Valuation of Investments**

Short-term investments and state securities are recorded at cost. Federal and corporate securities are stated at par value decreased by unamortized discounts amounting to \$17,741,054 in fiscal year 1990 and \$15,671,434 in fiscal year 1989. Mortgages were decreased by unaccumulated mortgage discount of \$82,108 in fiscal year 1990 and \$76,577 in fiscal year 1989.

The market value of the various investments at June 30, 1990, was as follows:

Montana Common Stock Pool	\$ 160,986,050
Short-Term Investment Pool	46,300,400
Other Common Stock	121,954
Securities:	
U.S. Government	\$ 44,907,014
Corporate Bonds	<u>440,855,188</u>
Securities Subtotal	485,762,202
Other Investments	10,059,669
Montana Mortgages	51,386,395
Land and Buildings	<u>117,943</u>
	<u>\$754,734,613</u>

**Gains and Losses on Bond Swaps**

The deferral and amortization method was used for accounting for gains and losses on bond swaps. The unamortized deferred gains or losses are netted against the investment account and written off over the life of either the bond sold or acquired, whichever is less.

**Compensated Absences**

Compensated absences represent 100 percent of accrued vacation and 25 percent of accrued sick leave for division personnel at June 30, 1990.

### Accountability for Advances

Accountability for advances represents the liability associated with amounts received as an advance from other accounting entities or other governments at June 30, 1990.

### **NOTE B. DESCRIPTION OF PLAN**

The Teachers' Retirement Board is the administrator of a mandatory multiple-employer, cost-sharing system which provides retirement services to all persons in Montana employed as teachers or professional staff of any public elementary or secondary school, vocational-technical center or unit of the university system. The System was established by the State of Montana in 1937 and is governed by Title 19, Chapter 4, of the Montana Code Annotated.

At June 30, 1990, the number and type of employers participating in the System was as follows:

Local School Districts	414
Community Colleges	3
University System Units	6
State Agencies	9
Total	<u>432</u>

At June 30, 1990, the System membership consisted of the following:

Retirees and Beneficiaries	
Currently Receiving Benefits	6,558
Terminated Employees Entitled to But Not Yet Receiving Benefits	5,217
Current Members:	
Vested	10,457
Nonvested	5,245
Total Membership	<u>27,477</u>

The pension plan provides retirement benefits and death and disability benefits. Employees with a minimum of 25 years of service or who have reached age 60 with 5 years of service are eligible to receive an annual retirement benefit equal to 1/60 times creditable service years times the average final compensation. Final compensation is the average of the highest three consecutive years of earned compensation. Benefits fully vest after 5 years of creditable service. Vested employees may retire at or after age 50 and receive reduced retirement benefits.

Effective January 1, 1988, university system employees eligible to participate in the Teachers' Retirement System could elect to participate in an Optional Retirement Plan established by the Board of Regents. As of June 30, 1990, a total of 523 eligible university system employees have elected to participate in the Optional Retirement Plan.

Effective January 1, 1990, the Teachers' Retirement Board made some important changes in the Tax-deferred Annuity Program. The board, in conjunction with their consultant, Gabriel Roeder & Smith, selected the Variable Annuity Life Insurance Company (VALIC) as our tax-deferred annuity (TDA) carrier. Our criteria for selecting and organization were highly competitive current interest rates with no front charges, mutual fund investment options, strong annuity payout rates, the ability to actively serve Montana educators and the desire to work closely with the Teacher' Retirement System in and ongoing and cooperative fashion.

These changes have brought the TDA program higher interest rates, very strong annuity payout rate, enhanced flexibility with the nine different mutual funds VALIC offers, and the ability to actively promote and service our program.

VALIC is a recognized leader in the development of tax favored retirement plans for educators. The company is rated A+ (superior) by AM Best Company which is the highest rating given. With over \$11 Billion in assets, VALIC is one of the largest companies in the country offering TDA plans. VALIC's size and ratings speak highly of the quality and safety of its investment. VALIC is also a single purpose company offering only tax-deferred annuity programs and is endorsed by some 20 other national education associations.

Effective January 1, 1990, certain members of the Teachers' Retirement System are eligible to receive a post retirement adjustment. The adjustment is funded by annual interest earnings in excess of the required 8%. To be eligible, a retiree or beneficiary must be at least 55 years of age or be receiving a disability or survivor allowance and have been receiving a monthly benefit for the 24 consecutive months preceding June 30 each year. In fiscal year 1990, \$362,905.44 was disbursed to eligible recipients.

#### **NOTE C. FUNDING STATUS AND PROGRESS**

The pension benefit obligation is a standardized disclosure of the present value of pension benefits, adjusted for the effects of

projected salary increases, estimated to be payable in the future as a result of employee service to date. The measure is the actuarial present value of credited projected benefits and is intended to help users assess the System's funding status on a going-concern basis, assess progress made in accumulating sufficient assets to pay benefits when due and make comparisons with other public employee retirement systems. The measure is independent of the actuarial funding method used to determine contributions to the System.

The pension benefit obligation was determined as part of an actuarial update at June 30, 1990 and an actuarial valuation at July 1, 1989. Significant actuarial assumptions at June 30, 1990 include (a) a rate of return on the investment of present and future assets of 8% per year compounded annually, and (b) projected salary increases of 6.5% due to inflation. These same assumptions were used in the actuarial valuation at July 1, 1989.

At June 30, 1990, the unfunded pension benefit obligation was as follows:

Pension Benefit Obligation:

Retirees and beneficiaries currently receiving benefits	\$ 475,652,160
Terminated members entitled to benefits but not yet receiving them	26,815,778
Current employees:	
Accumulated employee contributions	340,092,144
Employer-financed vested	359,965,494
Employer-financed nonvested	4,266,434
Total Pension Benefit Obligation	\$1,206,792,010
Net Assets Available for Benefits at Cost (Market Value 1990 - \$781,814,663)	<u>689,225,147</u>
Unfunded Pension Benefit Obligation	<u>\$ 517,566,863</u>

**NOTE D. CONTRIBUTIONS REQUIRED AND CONTRIBUTIONS MADE**

The TRS funding policy provides for periodic employer and employee contributions at rates specified by State Law; contribution requirements are not actuarially determined. An actuary determines the actuarial implications of the funding requirement in an annual actuarial valuation. The actuarial method used to determine the implications of the statutory funding level is the entry age normal funding method, with both normal cost and amortization of the unfunded accrued liability determined as a level percentage of

payroll. The actuarial valuation prepared as of July 1, 1990, the most recent valuation date, indicates the statutory rate was sufficient to fund the normal cost and to amortize the unfunded accrued liability under the entry age normal method over 36.31 years. During fiscal years 1989 and 1990, no changes were made in the method used to calculate or establish contribution requirements, nor were there any changes in the law affecting benefits.

Actual contributions made to the System during the fiscal year ending June 30, 1990, were as follows:

Covered payroll	<u>\$396,235,432</u>
Employer contributions	\$ 30,646,428
--% of covered payroll(R)	7.459%
--% of covered payroll(A)	7.734%
Employee contributions	\$ 30,549,466
--% of covered payroll(R)	7.044%
--% of covered payroll(A)	7.710%

(R)Contributions required by statute. (A)Actual contributions.

Employer contributions include transfers from the Public Employees' Retirement System.

#### NOTE E. HISTORICAL TREND INFORMATION

<u>ANALYSIS OF FUNDING PROGRESS</u>	As of June 30		
	<u>1990</u>	<u>1989</u>	<u>1988</u>
Net assets available for benefits as a % of PBO	57.1%	56.4%	56.2%
Unfunded PBO as a % of annual covered payroll	130.6%	133.2%	128.6%
Employer contributions as a % of annual covered payroll	7.734%	7.428%	7.428%

Supplemental schedules of historical trend information are presented on page 26 of the Statistical Section.

## **NOTE F. ADMINISTRATIVE EXPENSES**

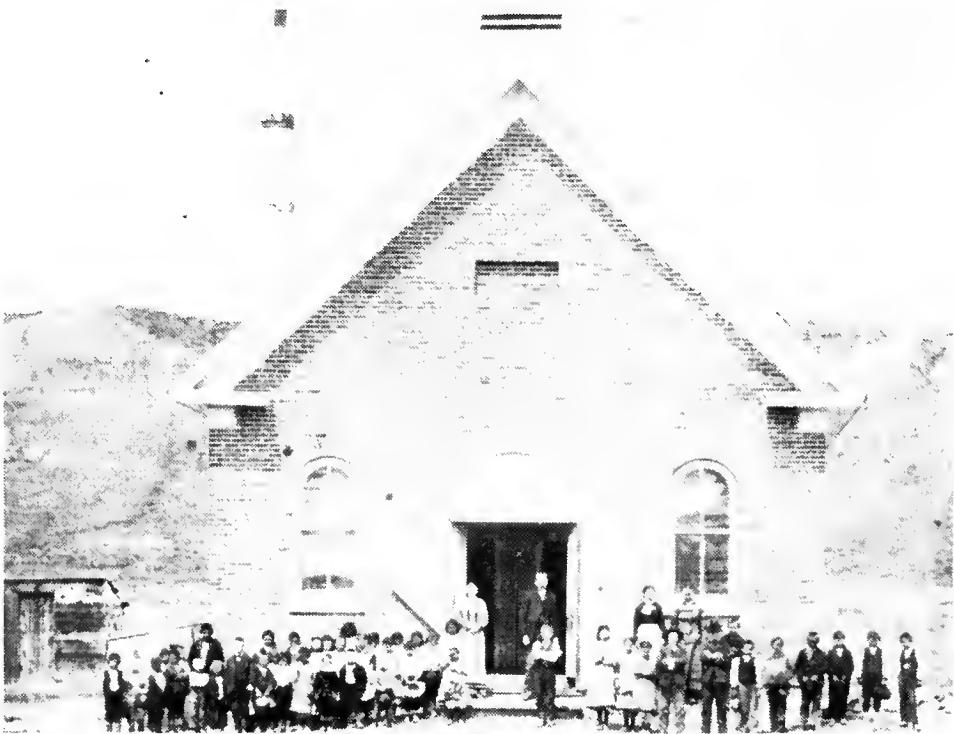
Administrative expenses for the years ended June 30, 1990 and 1989, are outlined below:

	<u>1990</u>	<u>1989</u>
<b>Personal Services:</b>		
Salaries	\$208,616	\$194,788
Other compensation	2,600	2,050
Employee benefits	<u>47,456</u>	<u>43,156</u>
Total Personal Services	<u>\$258,672</u>	<u>\$239,994</u>
<b>Operating Expenses:</b>		
Contracted services	\$142,238	\$128,699
Supplies and materials	16,323	7,649
Communications	33,225	30,611
Travel	9,361	6,402
Rent	41,480	40,205
Repair and maintenance	3,851	3,613
Other expense	2,900	2,247
Equipment	(903)	2,298
Intangible Assets	143	0
Compensated Absence	1,060	1,101
Depreciation	10,931	10,644
Amortization	<u>1,645</u>	<u>1,094</u>
Total Operating Expense	<u>\$262,111</u>	<u>\$234,563</u>
<b>Investment Expense</b>	<u>166,134</u>	<u>179,743</u>
<b>Total Administrative Expense</b>	<u>\$687,060</u>	<u>\$654,300</u>





Finkbeiner School south east of Grass Range, Montana. Picture compliments of Montana Historical Society, Helena.



1878—First brick building, and school house in Fort Benton, Montana. Built in 1878. Picture compliments of Montana Historical Society, Helena.

**ACTUARIAL SECTION**

**\*ANALYSIS OF VALUATION**

**\*ANALYSIS OF 1990 VALUATION OF  
OPTIONAL RETIREMENT PLAN**

**\*PRESENT VALUE OF BENEFITS**

**\*LIABILITY ALLOCATION AND  
STATUTORY FUNDING**

**\*VALUATION COMPARISON**

**\*COMPARISON OF CONTRIBUTING  
MEMBERS**

**\*COMPARISON OF MEMBERS RECEIVING  
BENEFITS**

**\*ACTUARIAL FUNDING METHOD AND  
ASSUMPTIONS**

**\*SUMMARY OF BENEFIT PROVISIONS**

This information was compiled from the actuarial valuation of July 1, 1989, by Hendrickson, Miller & Associates, Inc.

## ANALYSIS OF VALUATION TEACHERS' RETIREMENT SYSTEM

### Results of Valuation

An actuarial valuation of the Montana Teachers' Retirement System was conducted as of July 1, 1989. This valuation determined that the percentage of each member's salary required to fund benefits as they accrue in the future is 8.827%. The statutory contribution rate of 14.503% allows 5.676% to be applied to the amortization of the unfunded past service liability. This percentage is sufficient to amortize the unfunded past service liability over a period of 36.31 years.

The percentage of salaries required to fund future service benefits has increased .164% from 8.663% in 1987 to 8.827% in 1989. The statutory contribution rate was increased .031% as of July 1, 1989. Therefore, the rate available to fund the unfunded liability has declined by .133%, from 5.809% in 1987 to 5.676% in 1989. The projected period over which the unfunded liability will be amortized has decreased slightly from 36.46 years in 1987 to 36.31 years in 1989. Ideally, this period of amortization would have declined two years to 34.36 years. To accomplish this, an additional contribution rate of .24% would be required.

Several factors, including actuarial assumption changes, contributed to the change in projected funding rates. These factors are discussed below.

### Actuarial Assumptions

A study was conducted as of July 1, 1989, to examine the past experience of the Teachers' Retirement System and to modify the actuarial assumptions where warranted by the experience. The following is a summary of these findings:

1. **Mortality Rates.** Since 1977, the mortality assumptions have been based upon the 1971 Group Annuity Mortality Table. These rates were set back one year to reflect improved life expectancy. The basis for the mortality rates has been changed to the 1983 Group Annuity Mortality Table which reflects more recent experience on a national basis.

Historically, the mortality rate among active teachers has been lower than the general population. The experience of the Montana Teachers' Retirement System supports this fact.

To reflect the lower mortality experience, the 1983 Mortality Table was set back two years for active members and one year for retired members.

The net effect of the change in mortality assumptions increased the system's liability by \$53 million and extended the funding period approximately five years.

2. **Disability Rates.** The disability rates are based upon the 1983 Disability Table. Again, the experience of the Montana Teachers' Retirement System is a lower than average rate of disability. To reflect this favorable experience, the 1983 disability rates were multiplied by a factor of 90%. This change in the assumption reduced the liability for disabilities by 10%. This savings was offset by a similar increase in the liability for retirement and mortality. Overall, there was no appreciable impact on the system's liability or the funding period.
3. **Withdrawal Rates.** The withdrawal rate assumptions are based on the past experience of the Teachers' Retirement System. These were last modified in 1981 when it was determined that the rate of member termination had declined, and the withdrawal rates were reduced accordingly. The study as of July 1, 1989, indicates again that the rate of termination by the members has decreased. The decline in the termination rate was particularly evident among members age 35 through age 50. The withdrawal rates shown in this report have been modified to reflect this latest trend.

This change increased the system's liability by \$52 million and extended the funding period by approximately 5 years.

4. **Retirement Rates.** The retirement rates shown in this report are based upon the past experience of the system, with recognition of the trend toward early retirement. The most recent experience of the system indicates that these retirement rates are reasonable assumptions. The only modification required was the elimination of the assumption that 35% of the members would retire when first eligible. Experience indicates that members retire at a more uniform rate.

This change decreased the liability by \$4 million and the funding period by approximately 1 year.

5. **Economic Factors.** Investment earnings have been assumed to be 8% compounded annually and salary increases at 6 1/2%. These assumptions have not been changed. Previous valuations

have allowed for meritorious and longevity increases of 3/4 of 1%. The experience of the system indicates that increases have been reasonably uniform, and this assumption was removed. This change decreased the liability of the system by \$43 million and the period of funding by approximately 5 years.

6. **Post-Retirement Adjustment.** A post-retirement adjustment is now available, provided investment earnings are sufficient. This adjustment is funded by earnings in excess of those assumed in the actuarial valuation and, as such, the cost of this adjustment is not reflected in this valuation.
7. **Assets.** As noted in this report, a portion of the market value appreciation of stocks was recognized in this valuation. This amounted to \$28,989,061. The result was a reduction of 2 years in the amortization period of the unfunded liability.

The net effect of the actuarial assumption modifications was an increase in the system's liability of \$57 million and an extension of the funding period of 4.2 years. Had these changes not been made, the projected funding of the unfunded liability would have occurred over 32.14 years compared to 36.31 years, as shown in this valuation.

### Asset Valuation

The fund balance of the Teachers' Retirement System as of June 30, 1989, was \$624,755,142, excluding market value appreciation on stocks. This represented a 23.8% gain over the similar fund balance as of June 30, 1987. The market value appreciation on stocks was \$86,967,184. We recommend that any market value gain or loss be recognized in the valuation, but spread over a 3-year period to smooth short-term fluctuations. For purposes of this valuation, one-third of the appreciation was recognized which provided total assets of \$653,744,203.

### Military Service Credit

The commencement period for Vietnam Service credit was moved to an earlier date. The additional period for credit extends from December 22, 1961 to August 5, 1964. The cost of this credit was funded by an additional employer contribution of .031%. The total employer rate is now 7.459% of each active member's salary.

The additional contribution credit was offset by the additional military credit liability in this valuation.

### Valuation of Active Members

The number of active members increased slightly from 15,060 in 1987 to 15,087 in 1989. However, the number of full-time members decreased from 13,105 to 12,546. This decrease was largely attributable to the members of the university who waived participation. The members reported as part-time increased from 1,955 to 2,541.

Because of the larger number of part-time members, the total payroll base increased slightly from \$353,448,479 to \$358,789,345. The average annual salary for full-time members increased 4.3% from \$25,981 in 1987 to \$27,090 in 1989. The decrease in the number of full-time members resulted in a decrease in the payroll for full-time members from \$340,480,611 to \$339,866,479.

The average age of full-time members is 42.0 years and the average credited service is 12.3 years. Of the 12,546 full-time members, 5,587 are male and 6,959 are female.

### Valuation of Inactive Members

The number of members receiving benefits grew from 6,036 in 1987 to 6,330 in 1989 representing a 4.9% increase. During the same period, the annual benefits grew from \$34,236,612 to \$49,546,116 representing a 14.6% increase.

The average age of members receiving benefits is 70.1 years and the average monthly benefit is \$652. Of those members who retired during the biennium, the average age was 60.4 years and the average monthly salary was \$1,009.

### Unfunded Liability Schedule

A target period of 40 years has been established as the funding schedule for any unfunded liabilities generated during each biennium. This schedule was formalized as of July 1, 1985. The unfunded liability existing on that date will be funded over a remaining period of 36 years from July 1, 1989. Those created in 1987 and 1989 will be funded over periods of 38 and 40 years, respectively. As shown on page 11, a contribution rate of 14.568% is the projected rate required to meet this schedule. The statutory contribution is 14.503%. The funding schedule is near target, but future experience may cause the funding target to vary.

## General

The data provided by the Teachers' Retirement System appears complete and accurate with the exception of some active members for whom birth dates are missing. A summary of this data is illustrated in Section III of this report. The active members have been categorized by full-time and part-time members in order to prevent any distortion of the average salaries.

The liabilities of the system have increased since the last valuation. This is mainly attributable to the change in actuarial assumptions which was necessitated by the experience of the system. The assets continue to grow at a steady rate and the system is being funded in a manner which will allow the unfunded liability to be funded in less than 40 years. Based upon the data provided by the Teachers' Retirement System and the Actuarial assumptions stated in this report, it is our conclusion that the Teachers Retirement System is actuarially sound.

## ANALYSIS OF VALUATION OPTIONAL RETIREMENT PLAN

### Results of Valuation

An actuarial valuation of the Teachers' Retirement System (TRS) was conducted as of June 30, 1990. The purpose of the valuation was to determine the effect on the amortization of the unfunded liability of TRS caused by members of the university system who elect to participate in the Optional Retirement Program (ORP). The information on these members was provided by the Office of the Commissioner of Higher Education.

ORP became available on January 1, 1988. As of June 30, 1990, 523 individuals were participating in this program. Of these individuals, 211 were employed prior to January 1, 1988, and joined the program at an average age of 38.1 years. The remaining 312 members were employed on or after January 1, 1988, and joined at an average age of 36.8 years.

The average age of those university members who selected TRS was 35.7 years.

The actuarial valuation was conducted both including and excluding those members who elected ORP. The valuation based on current membership determined a slight increase in the normal cost from

8.83% in 1989 to 8.87% in 1990. The balance available for the unfunded past service liability allowed it to be funded over 36.3 years in 1989 and 35.8 years in 1990.

The valuation based on full membership assuming no one had selected ORP, determined that the unfunded liability would be funded over 35.4 years. The difference in funding periods of 35.8 years based on current membership and 35.4 years based on full membership is attributable to the difference between the \$4.50% contributed to TRS on behalf of ORP members and the unfunded rate of 5.63% determined by the TRS actuarial valuation.

An additional valuation was conducted on the current TRS membership under the assumption that the contribution rate on behalf of ORP members would be 5.63% of compensation. Under that assumption, the funding period would be reduced, as expected, to 35.4 years.

### Demographic Changes

The demographics of a retirement system affect its financial requirements. Younger members with higher employment termination experience tend to have a more positive effect on the financial position of the system than older members. When membership is on a selective basis, the results can be detrimental to a system.

We have examined the statistics of the university members to determine the impact of this selection, and have found no basis to indicate that the selections have changed the membership's demographics adversely for TRS. The actuarial valuations including and excluding ORP members also indicated that, overall, the selections were not adverse to TRS.

### Contributions to TRS

It is important that the board of regents continue to contribute amounts in excess of 10% of each participant's compensation to the Teachers' Retirement System to assist in the funding of the existing past service liability. The required contribution rates are calculated on the premise that a portion of all Montana public school teachers' compensation will be applied to fund the past service liability. This premise is best understood by examining the source of the past service liability.

New members, whether joining the Teachers' Retirement System or the Optional Retirement Program, are not the reason for the existing past service liability. This liability was created by past

legislation and experience which affected current and retired members, including university members. While new members did not create the liability, it is necessary that their compensation and that of current members be used as a funding base. If the compensation of members electing the Optional Retirement Program is excluded from this base, a greater financial burden will be placed on the remaining members.

The present value of the contributions to TRS on behalf of ORP members is \$20 million. This value could possibly triple as more members join ORP in future years. If the contributions are discontinued, the liability would be placed on the remaining members.

### Conclusion

The data available for an analysis of the impact of the Optional Retirement Program are limited since the program has only been operating for 2 1/2 years. From our examination of the available data, we have concluded that the members who have selected ORP have been a representative group. There does not appear to be adverse selection against TRS.

The actuarial valuation indicated that the ORP did not have a detrimental impact upon TRS. However, the system's unfunded liability would be funded 4/10 years faster if the contribution rate to TRS on behalf of ORP members were 5.63% rather than 4.50%.

It is our conclusion that the contribution percentages established under Title 19, Chapter 21 have had no adverse effect on the amortization of the unfunded liability of the Teachers' Retirement System.

## PRESENT VALUE OF BENEFITS

(1) Present Value of Benefits - Inactive Members	
(a) Retirement	\$ 402,453,500
(b) Disability	14,178,690
(c) Death	18,404,900
(d) Vested	19,133,110
(e) Withdrawals	4,773,958
(f) Tax Sheltered Annuity	3,236,181
(g) Excess Interest Payment	<u>89,643</u>
(h) Total Inactive	\$ 462,269,982
(2) Present Value of Benefits - Active Members	
(a) Retirement	\$ 857,424,370
(b) Disability	14,826,848
(c) Death	22,626,545
(d) Vested	41,536,845
(e) Withdrawals	90,250,667
(f) Tax Sheltered Annuity	1,501,475
(g) Legacy Fund	<u>38,248</u>
(h) Total Active	<u>\$1,028,204,998</u>
(3) Total Liabilities	\$1,490,474,980

## LIABILITY ALLOCATION AND STATUTORY FUNDING

(1) Unfunded Accrued Liability

(a)	Present Value of Benefits	\$ 1,490,474,980
(b)	Present Value of Future Normal Costs	234,202,070
(c)	Fund Assets	<u>653,744,203</u>
(d)	Unfunded Liability (a)-(b)-(c)	\$ 602,528,707

(2) Contribution Rates Amortized over 36.31 Years

(a)	Present Value of Salaries During Next 36.31 Years	\$10,615,374,123
(b)	Unfunded Contribution Rate 1(d)/2(a)	5.676%
(c)	Normal Cost Rate (Schedule 1)	<u>8.827%</u>
(d)	Statutory Funding Rate	14.503%

### VALUATION COMPARISON

	<u>1987</u>	<u>1989</u>
Present Value of Total Benefits		
Total	\$1,336,488,140	\$1,490,474,980
Average for All Members	63,353	69,593
Unfunded Past Service Liability		
Total	\$ 586,200,249	\$ 602,528,707
Average for All Members	27,787	28,133
Assets		
Total	\$ 504,493,022	\$ 653,744,203
Average for All Members	23,219	30,525
Normal Contribution Rate	8.663%	8.827%
Recommended Contribution Rate for Unfunded Past Service Liability	<u>5.809%</u>	<u>5.676%</u>
Total Recommended Contribution Rate	14.472%	14.503%

**COMPARISON OF CONTRIBUTING MEMBERS**

	<u>1987</u>	<u>1989</u>
Full-Time Members	13,105	12,546
Part-Time Members	<u>1,955</u>	<u>2,541</u>
Total Contributing Members	15,060	15,087
Annual Full-Time Salaries	\$ 340,480,611	\$ 339,866,479
Average Full-Time Salaries	\$ 25,981	\$ 27,090

**COMPARISON OF MEMBERS RECEIVING BENEFITS**

	<u>1987</u>	<u>1989</u>
Number of Lives		
Retired	5,472	5,743
Disabled	251	255
Survivor	<u>313</u>	<u>332</u>
Total	6,036	6,330
Annual Benefit Payments		
Retired	\$ 40,239,672	\$ 46,281,216
Disabled	1,423,416	1,489,080
Survivor	<u>1,573,524</u>	<u>1,775,820</u>
Total	\$ 43,236,612	\$ 49,546,116
Average Monthly Benefit Payments		
Retired	\$ 613	\$ 672
Disabled	473	487
Survivor	419	446
Average	\$ 597	\$ 652

## ACTUARIAL FUNDING METHOD AND ASSUMPTIONS

The true cost of the Teachers' Retirement System will be determined by its future experience. In determining the financial requirement of the fund, certain assumptions were made as to the expected future experience. This section summarizes the funding method applied as well as the basic assumptions used.

Any variations in the actual experience of the fund from those assumed in this valuation may cause changes in the projected future costs of the fund. It is therefore necessary that the actuarial assumptions be reviewed from time to time with adjustments as experience warrants. It is also important that regular valuations be performed to determine the financial effect of variations between the actual and assumed experience.

The assumptions shown below were based upon the past experience of the fund together with the projections as to future experience.

### FUNDING METHOD

The method of funding employed is commonly referred to as the entry age normal cost method. This method establishes a normal cost of each fund as well as an unfunded accrued liability. The normal cost is the level percentage of total salaries required to fund the benefits, assuming this percentage has been contributed since each member's entry into the fund.

The unfunded accrued liability represents the excess of the present value of total liabilities over the present assets of the fund and the present value of expected future contributions for the normal cost.

In order to maintain the fund on an actuarially sound basis, the rate of contribution should be such as to meet the normal cost in addition to making progress towards the amortization of the unfunded liability.

### DISCUSSION OF ACTUARIAL ASSUMPTIONS

#### Mortality Rates

The 1983 Group Annuity Mortality rate for males and females are applied to active members and those receiving benefits. The mortality rates were set back one year to reflect life expectancies of retired members and two years for active members.

### Disability Rates

The disability rates for males and females are based upon the 1983 Disability Table published in the Transactions of the Society of Actuaries, Volume XXXV, reduced 10% to reflect the more favorable disability experience of the system.

### Retirement Rates

The retirement rates are based upon the past experience of the system and projected future experience with a trend toward earlier retirements.

### Withdrawal Rates

The withdrawal rates are based upon the experience of the system. These rates were adjusted as of July 1, 1989 to reflect the reduced rate of termination among the system's members.

### Future Salaries

The rates of salary increase are based upon a level assumption of 6.5% per year compounded annually.

### Investment Earnings

The net investment earnings rate is assumed to be 8% per year compounded annually.

### Administrative Expenses

The administrative expenses of the system are assumed to be funded by excess investment earnings.

### Termination Benefits

Members terminating with less than five years of service are assumed to request an immediate withdrawal of their personal contributions with interest. Members with five or more years of service are assumed to select the benefits most advantageous to them under the given assumptions.

## SUMMARY OF BENEFIT PROVISIONS

Effective Date	September 1, 1937
Vesting Period	5 years. No benefits are payable unless the member has a vested right, except the return of employee contributions with interest.

Final Compensation	Average of highest 3 consecutive years of earned compensation.
Normal Form of Benefits	Life only annuity. All benefits cease upon death; however, in no event will the member receive less than the amount of employee contributions with interest.
Normal Retirement Benefits	
Eligibility	25 years of service or age 60.
Benefit:	The retirement benefit is equal to 1/60 of final compensation for each year of service.
Early Retirement Benefits	
Eligibility:	5 years of service and age 50.
Benefit:	The retirement benefit is calculated in the same manner as described for normal retirement, but the benefit is reduced 1/2 of 1% for each of the first 60 months early and 3/10 of 1% for each of the next 60 months early.
Death Benefits	
Eligibility:	5 years of service.
Benefit:	The death benefit is equal to 1/60 of final compensation for each year of service accrued at date of death with an actuarial adjustment based on the relation of members' age at the death to the beneficiary's age. A monthly benefit of \$200 is paid to each child until age 18. In addition a lump sum benefit of \$500 is paid upon the death of an active or retired member.
Disability Benefits	
Eligibility:	5 years of service.

Benefit:

The disability benefit is equal to 1/60 of final compensation for each year of service accrued at date of disability. The minimum benefit is 1/4 of the final compensation.

Withdrawal Benefits

With less than 5 years of service, the accumulated employee contributions with interest are returned. With more than 5 years, the member may elect a refund of contributions with interest, or may leave the contributions and interest and retain a vested right to retirement benefits.

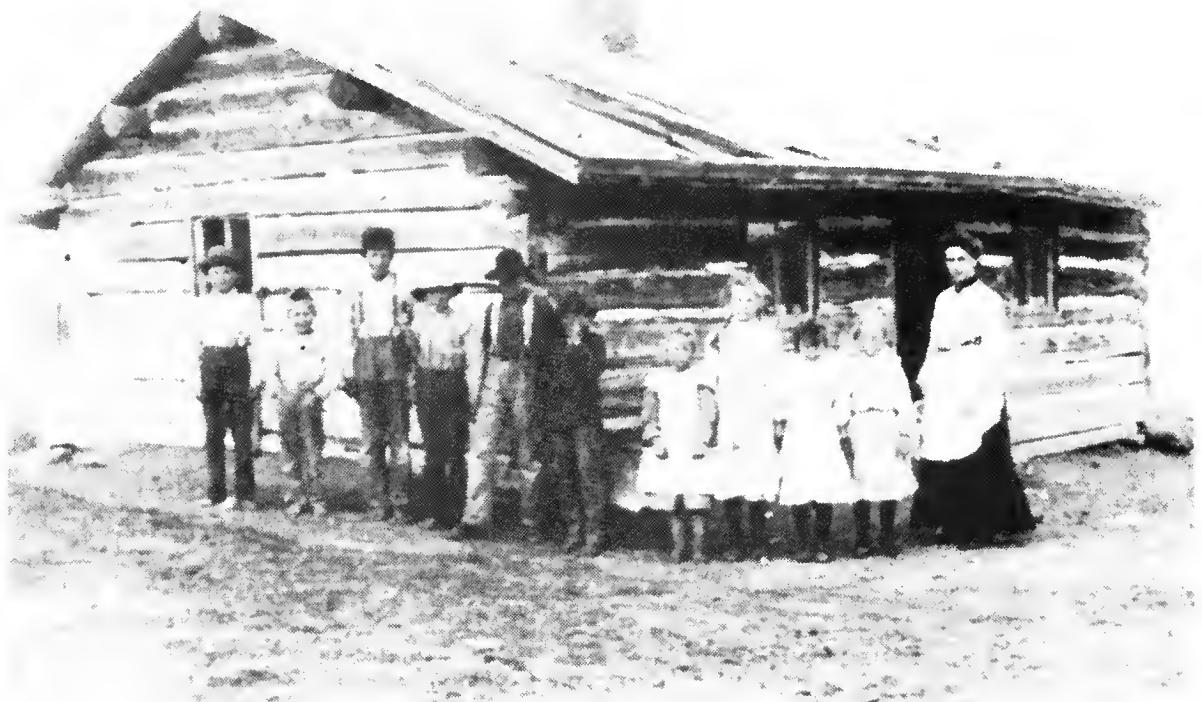
Tax Sheltered Annuity

The Teachers' Retirement System sponsors a tax-deferred annuity program for the benefit of its members. The policies of this program have been established in accordance with the guidelines set by the Internal Revenue Service. The benefits provided by this program are determined solely by the value of the member's account (voluntary contributions plus interest) using actuarial tables provided by the Retirement Board.

Contributions

Employee: 7.044% of compensation

Employer: 7.459% of compensation



Ada School in Blaine County near Chinook, Montana. The teacher was Eve Rolf. Picture compliments of Montana Historical Society, Helena.



Chinook High School Chinook, Montana. Picture compliments of Montana Historical Society, Helena.

**STATISTICAL SECTION**

**\*REVENUES BY SOURCE**

**\*EXPENSES BY TYPE**

**\*CONTRIBUTION RATES**

**\*ACTIVE MEMBERSHIP**

**\*RETired MEMBERSHIP**

**\*LOCATION OF BENEFIT  
RECIPIENTS**

**REVENUES BY SOURCE**

YEAR	EMPLOYEE CONTRIBUTIONS	EMPLOYER CONTRIBUTIONS	INVESTMENT INCOME		<u>TOTAL</u>
			OTHER	INVESTMENT	
1980 - 1981	16,674	792	15,780	560	50,597,119
1981 - 1982	18,230	806	17,880	140	57,936,505
1982 - 1983	20,786	014	20,158	344	66,861,205
1983 - 1984	25,018	366	24,103	285	79,460,387
1984 - 1985	26,630	671	26,104	746	88,093,298
1985 - 1986	27,603	165	27,322	124	100,329,709
1986 - 1987	28,883	825	28,401	842	106,106,318
1987 - 1988	28,800	383	28,324	488	109,001,883
1988 - 1989	28,995	301	28,657	283	116,395,234
1989 - 1990	30,549	466	30,646	428	124,944,891

**EXPENSES BY TYPE**

YEAR	BENEFITS PAYMENTS	WITHDRAWALS	ADMIN. (1) EXPENSES		<u>TOTAL</u>
			INVESTMENT EXPENSES	OTHER*	
1980 - 1981	20,599	213	4,742	599	25,812,150
1981 - 1982	24,701	020	5,893	999	31,114,816
1982 - 1983	25,957	774	3,405	461	30,105,768
1983 - 1984	28,791	213	4,230	672	34,105,768
1984 - 1985	32,498	499	4,812	090	37,748,942
1985 - 1986	37,633	013	4,647	911	42,793,730
1986 - 1987	40,292	222	4,807	517	45,668,312
1987 - 1988	44,001	287	6,994	554	51,750,602
1988 - 1989	47,214	491	5,213	596	53,082,390
1989 - 1990	51,033	464	8,561	498	60,282,022

\* Includes prior year adjustments and depreciation through 1984.

(1) Includes depreciation after fiscal year 1984.

TEACHERS' RETIREMENT SYSTEM

CONTRIBUTION RATES

EMPLOYEE

1937 - 1973	5.000%
1973 - 1975	5.125%
1975 - 1977	6.125%
1977 - 1983	6.187%
1983 - 1990	7.044%

EMPLOYER

1937 - 1945	NONE
1945 - 1959	3.750%
1959 - 1969	4.000%
1969 - 1971	4.500%
1971 - 1973	5.125%
1975 - 1977	6.250%
1977 - 1981	6.312%
1981 - 09/30/81	6.432%
10/01/81 - 06/30/83	6.463%
07/01/83 - 06/30/85	7.320%
07/01/85 - 06/30/89	7.428%
07/01/89 - 06/30/90	7.459%

UNLESS OTHERWISE NOTED, CONTRIBUTION RATE  
CHANGES OCCUR ON JULY 1.

**MEMBERSHIP**

<u>PERIOD ENDED</u>	<u>ACTIVE MEMBERS</u>	<u>INACTIVE VESTED MEMBERS</u>	<u>INACTIVE NON-VESTED</u>	<u>TOTAL</u>
JUNE 30, 1981	14,793	754	2,457	17,984
JUNE 30, 1982	14,852	722	1,983	17,557
JUNE 30, 1983	14,934	723	2,051	17,708
JUNE 30, 1984	15,214	748	2,148	18,110
JUNE 30, 1985	15,579	714	2,245	18,238
JUNE 30, 1986	15,951	695	2,362	19,008
JUNE 30, 1987	15,084	964	3,090	19,138
JUNE 30, 1988	15,041	1,025	3,444	19,510
JUNE 30, 1989	15,087	1,074	3,765	19,926
JUNE 30, 1990	15,702	1,137	4,080	20,919

**RETIRED MEMBERS AND BENEFICIARY RECIPIENTS\*\***

<u>PERIOD ENDED</u>	<u>RETIREMENT</u>	<u>SURVIVORS</u>	<u>DISABILITY</u>	<u>CHILD BENEFITS</u>	<u>TOTAL</u>
JUNE 30, 1981	4,136	267	220	45	4,668
JUNE 30, 1982	4,336	268	223	42	4,869
JUNE 30, 1983	4,451	279	227	42	4,999
JUNE 30, 1984	4,653	294	227	46	5,220
JUNE 30, 1985	4,936	302	235	51	5,524
JUNE 30, 1986	5,158	311	239	58	5,766
JUNE 30, 1987	5,295	311	245	58	5,909
JUNE 30, 1988	5,475	320	249	59	6,103
JUNE 30, 1989	5,743	332	255	59	6,389
JUNE 30, 1990	5,903	334	265	56	6,558

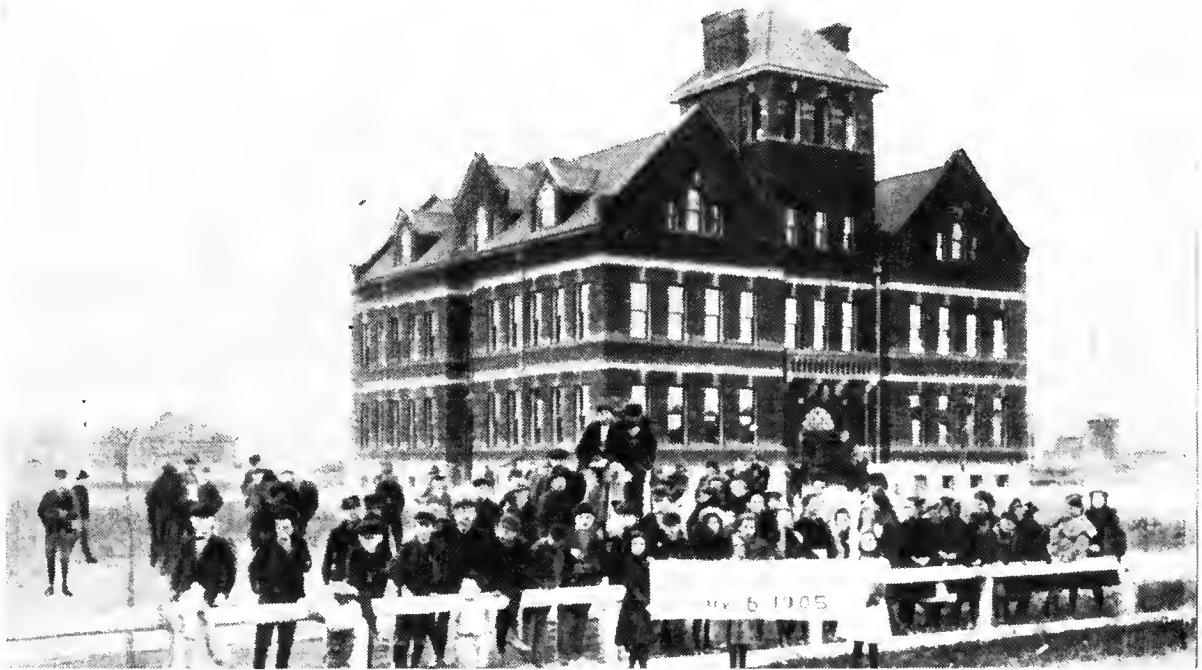
\*\* This information includes tax sheltered annuities.

**LOCATION OF BENEFIT RECIPIENTS**

Alabama	7	New Hampshire	1
Alaska	17	New Jersey	2
Arizona	149	New Mexico	20
Arkansas	2	New York	16
California	183	North Carolina	10
Colorado	54	North Dakota	75
Connecticut	2	Ohio	7
Dist. of Columbia	1	Oklahoma	12
Florida	29	Oregon	127
Georgia	6	Pennsylvania	3
Hawaii	4	Rhode Island	1
Idaho	65	South Carolina	3
Illinois	9	South Dakota	21
Indiana	3	Tennessee	9
Iowa	9	Texas	32
Kansas	12	Utah	25
Kentucky	3	Virginia	9
Louisiana	3	Washington	247
Maine	2	West Virginia	2
Maryland	4	Wisconsin	19
Massachusetts	4	Wyoming	41
Michigan	5	Australia	1
Minnesota	52	Canada	8
Missouri	14	Denmark	1
Montana	5,244	Guaynabo	1
Nebraska	6	Scotland	<u>1</u>
Nevada	37	TOTAL	<u>6,620</u>



January 3, 1905 North Side High School in Billings, Montana. Picture compliments of Montana Historical Society, Helena.



January 5, 1905 South Side School Billings, Montana. Picture compliments of Montana Historical Society, Helena.

INVESTMENT SECTION

\*CORPORATE BONDS

\*COMMON STOCK

\*U. S. TREASURY ISSUES

\*U. S. AGENCIES

\*STATE DIRECT OR MUNICIPAL

\*MORTGAGES

\*MISCELLANEOUS

## TFACHFRS RFTIRGMNT

PAR	Issuer	Coupon	Maturity	Book Value	Market Value
30,000.00	PATNF WFRRFR (PRFFFRRFD)			476,250.00	480,000.00
30,000.00	Subtotal for FINANCIAL SVCS--BROKFRAGF			476,250.00	480,000.00
17,500.00	INTSYS CV PFD	0.00000	657,337.50	564,375.00	
17,500.00	Subtotal for INFO PRO-COMPUTFR		657,337.50	564,375.00	
15,000.00	JAMFS RIVER CORP (PRFFFRRFD)		660,000.00	723,750.00	
15,000.00	Subtotal for PAPER PRODUCTS		660,000.00	723,750.00	
66,00	TRITON GROUP LTD	0.00000	158,50	453.75	
66,00	Subtotal for RESTAURANTS		158,50	453.75	
2,500,000.00	RANK OF NEW ENGLAND DFP NT	9.67500	02/15/1991	2,495,499.69	2,500,000.00
500,000.00	BANKFRS TRUST NEW YORK CORP	9.62500	11/01/2002	499,382.22	468,000.00
1,000,000.00	CHEMICAL BANKING CORP	9.55000	09/15/1993	993,207.17	990,400.00
900,000.00	CHEMICAL NEW YORK CORP	9.25000	08/01/2002	895,690.44	767,457.00
1,700,000.00	CITICORP	8.45000	03/15/2007	1,332,075.30	1,513,000.00
500,000.00	CITICORP	8.12500	07/01/2007	419,050.22	431,400.00
500,000.00	CITICORP	9.37500	01/15/1993	497,146.64	500,300.00
2,800,000.00	ROCKFR NATIONAL CORP	8.60000	12/01/2002	2,373,658.71	2,577,120.00
304,826.35	FIRST INTERSTATE BANKS PP	11.50000	03/01/1999	504,826.35	302,002.65
276,000.00	FIRST SECURITY PP	5.50000	10/01/1997	276,000.00	253,193.64
1,000,000.00	TRYING BANK CORP	12.37500	11/15/2007	984,918.12	1,101,800.00
500,000.00	REFURIC NATIONAL BANK NY	8.20000	12/15/1996	484,597.59	474,800.00
2,000,000.00	HS BANGOR CORP	12.50000	05/01/2010	2,168,609.10	2,179,600.00
500,000.00	HS NATIONAL BANK OF ORFGON	7.75000	01/15/2002	397,016.41	438,750.00
2,500,000.00	VALI FF NATIONAL CORP	9.57500	01/01/2016	2,293,323.56	1,543,750.00
17,980,826.35	Subtotal for BANKING		16,923,031.52	16,648,579.32	
500,000.00	BFII CANADA PP	9.50000	06/01/2004	500,000.00	527,710.00
1,000,000.00	BFII CANADA	9.00000	01/15/2008	1,000,000.00	960,200.00
800,000.00	BFII CANADA	11.37500	10/15/2010	770,740.77	959,630.00
4,000,000.00	BC HYDRO & POWFR	12.50000	09/01/2013	3,987,610.02	4,800,800.00
82,880.01	CANADIAN NATL RAILWAY PP	9.00000	07/01/1991	82,380.01	82,814.14
334,000.00	CANADIAN NATL RAILWAY PP	9.25000	01/15/1998	334,000.00	344,083.46
2,750,000.00	CANADIAN NATL RAILWAY CO	9.70000	07/15/2004	2,311,938.61	2,743,125.00
33,333.37	CANADIAN PAC FQTIP TRUST PP	10.12500	07/02/1990	33,333.37	33,336.33
1,000,000.00	HYDRO QFRFC	11.25000	12/15/2013	1,000,000.00	1,216,600.00
3,543,000.00	IMPERIAL OIL	9.75000	09/15/2009	3,476,512.04	3,543,354.30
500,000.00	INCO LIMITED	12.37500	07/15/2010	497,325.91	543,400.00
2,000,000.00	INCO LIMITED	9.87500	06/15/2019	1,949,745.20	1,940,400.00
500,000.00	MANITOBA HYDRO ELECTRIC BOARD	9.25000	01/15/2006	436,427.98	486,450.00
1,100,000.00	MANITOB HYDRO ELECTRIC BOARD	9.25000	06/30/2001	1,069,151.46	1,077,450.00
950,000.00	MUNICIPAL FINANCE BC	9.87500	05/01/2001	980,000.00	912,466.00
518,405.38	MUNICIPAL FINANCE RC	13.75000	12/01/2005	517,206.28	611,209.91
425,000.00	NEW BRUNSWICK ELECTRIC POWFR	8.75000	04/01/2004	405,075.18	397,332.50

## Year End Portfolio Report as of 06/30/1990

61059506

TEACHERS RETIREMENT

PAR	Lessee	Compan	Maturity	Rank	Value	Market Value	
500,000.00	NEW BRUNSWICK ELECTRIC POWER	9.17500	05/01/2001	500,	000.00	491,700.00	
1,000,000.00	NEW BRUNSWICK ELECTRIC POWER	8.75000	08/01/2007	988,	387.78	926,900.00	
500,000.00	NOVA SCOTIA POWER	10.50000	03/15/2000	500,	000.00	514,500.00	
450,000.00	ONTARIO HYDRO PP	9.50000	03/15/1996	450,	000.00	462,978.00	
500,000.00	QUEBEC HYDRO ELECTRIC	8.25000	01/01/2004	498,	563.65	452,450.00	
1,500,000.00	TORONTO-DOMINION BANK	9.90000	02/01/1999	1,497,	425.00	1,498,500.00	
1,000,000.00	TORONTO-DOMINION BANK	9.35000	03/01/1992	1,000,	000.00	1,001,100.00	
25,516,118.76	Subtotal for CANADIAN			24,786,	213.26	26,598,533.66	
1,620.00	DEVELOPMENT CORP OF MONTANA	0.00000		121,	500.00	121,500.00	
1,620.00	Subtotal for CAPITAL STOCK			121,	500.00	121,500.00	
250,000.00	AMOCO CANADA CV	7.37500	09/01/2013	243,	819.92	285,000.00	
461,500.00	COOPFR COS INC CV	10.62500	03/01/2005	416,	952.12	325,934.38	
1,000,000.00	WALT DISNEY	0.00000	06/27/2005	412,	425.56	413,750.00	
1,000,000.00	DUPONT ZERO COUPON SUB NOTES	0.00000	06/14/2010	220,	395.04	217,500.00	
500,000.00	FIFET FINANCIAL GROUP INC CV	8.50000	04/01/2010	500,	000.00	512,500.00	
500,000.00	FIRMING CV	6.50000	06/15/1996	452,	347.88	486,250.00	
500,000.00	GOODYEAR CV	6.87500	07/07/2003	420,	779.24	377,500.00	
500,000.00	KERR-MCGEE CV SUR DFR	7.25000	06/15/2012	500,	000.00	525,000.00	
250,000.00	LORAL CV SUR DFR	7.25000	09/10/2010	224,	410.11	222,500.00	
250,000.00	MCI COMMUNICATIONS CORP	0.00000	12/11/2004	101,	484.63	95,000.00	
120,000.00	PITTSTON CO CV	9.20000	07/01/2004	125,	518.47	106,800.00	
250,000.00	PRIMF COMPUTER CV SUR DFR	5.75000	02/01/2012	250,	000.00	41,575.00	
250,000.00	ROHR INDUSTRIES CV	7.00000	10/01/2012	250,	000.00	211,250.00	
175,000.00	SFAGATE TECH CV	6.75000	05/01/2012	330,	259.57	225,000.00	
500,000.00	UNION CARBIDE CV	7.50000	04/15/2012	424,	832.84	395,000.00	
375,000.00	ZENTH FICTRONICS CV DFR	6.25000	04/01/2011	296,	803.69	194,062.50	
7,081,500.00	Subtotal for CONVERTIBLE BOND			6,175,	049.12	4,634,671.95	
500,000.00	ALABAMA POWFR CO	10.50000	12/01/2005	500,	000.00	513,500.00	
2,100,000.00	ALABAMA POWFR CO	10.00000	06/01/2018	2,077,	957.64	2,119,740.00	
5,500,000.00	ALAMITO BEVERAGE LFASF PP	10.00000	01/01/2007	5,	500,000.00	5,643,550.00	
1,500,000.00	ARKANSAS POWER & LIGHT	9.75000	07/01/2019	1,476,	787.26	1,450,500.00	
318,000.00	ARKLA INC.	11.12500	05/01/2013	312,	175.06	337,338.00	
3,500,000.00	ARKLA INC.	9.87500	02/15/2015	3,	407,839.20	3,398,500.00	
4,500,000.00	BVPS FUNDING CORP	11.00000	06/01/2017	4,	459,	231.84	4,778,100.00
500,000.00	CENTRAL ILLINOIS LIGHT	9.25000	05/01/2006	498,	016.43	493,050.00	
1,000,000.00	CENTRAL POWER & LIGHT	9.37500	12/01/2019	985,	254.80	977,100.00	
1,900,000.00	CINCINNATI GAS & ELECTRIC	9.25000	04/01/2016	1,	854,988.39	1,828,910.00	
1,000,000.00	CINCINNATI GAS & ELECTRIC	9.95000	06/01/2016	977,	073.45	981,500.00	
1,000,000.00	CINCINNATI GAS & ELECTRIC	10.70000	06/15/2019	998,	937.64	984,600.00	
1,000,000.00	CINCINNATI GAS & ELECTRIC	10.12500	05/01/2020	995,	686.07	1,010,000.00	
2,000,000.00	CLIFFLAND ELECTRIC UTILIM CO	9.85000	05/01/2010	1,	976,927.09	1,984,200.00	
1,000,000.00	CLIFFLAND ELECTRIC UTILIM CO	10.00000	06/01/2020	990,	012.06	995,300.00	
127,359.38	COLONIAL GAS SYSTEM	10.25000	05/01/1999	113,	132.16	129,142.01	
100,000.00	COMMONWEALTH EDISON	6.25000	04/01/1996	81,	142.53	83,110.00	
850,000.00	COMMONWEALTH EDISON	6.25000	02/01/1998	683,	370.77	702,730.00	
1,000,000.00	COMMONWEALTH EDISON	4,154.00	10/15/2008	905,	091.12	943,800.00	

PAR	Issuer	Company	Maturity	Book Value	Market Value
5,000,000.00	COMMONWEALTH EDISON		02/15/2018	4,975,528.56	5,061,500.00
465,916.63	CONSUMERS POWER PP		07/01/1999	465,916.61	482,377.85
2,000,000.00	DOU FUNDING CORP		12/01/2016	2,000,000.00	2,194,200.00
1,000,000.00	DFTROIT EDISON		04/15/2016	875,486.72	948,600.00
5,000,000.00	DFTROIT EDISON		02/15/2017	4,715,130.31	4,580,000.00
550,000.00	DIKE POWER		04/01/1997	465,662.32	452,210.00
100,000.00	DIQUESNE LIGHT		03/01/2000	90,813.59	93,670.00
2,000,000.00	DISQUESN LIGHT		02/01/2017	1,936,696.11	1,840,800.00
2,000,000.00	ESTERN EDISON		06/01/2017	1,982,916.17	1,969,600.00
4,000,000.00	FU PASO ELECTRIC CO L.EASF. ORI .		04/01/2013	4,000,000.00	3,579,200.00
745,000.00	FU PASO ELECTRIC PP		05/01/2004	745,000.00	715,237.25
422,513.36	FLUITABLE GAS PP		06/15/1997	422,513.36	399,942.36
2,000,000.00	FPI GROUP CAPITAL INC.		10/12/2010	2,000,000.00	2,008,800.00
4,000,000.00	FIRST PV FUNDING CORP		10/15/2016	3,680,540.26	3,538,000.00
3,000,000.00	FLORIDA POWER & LIGHT		10/25/2000	2,992,782.56	3,084,900.00
1,160,000.00	FLORIDA POWER CORP		12/01/2003	1,081,433.64	1,234,744.00
500,000.00	GEORGIA POWER		08/10/2004	455,154.04	472,400.00
500,000.00	GEORGIA POWER		09/01/2008	497,904.35	495,750.00
5,000,000.00	GEORGIA POWER		10/01/2016	5,000,000.00	5,135,500.00
165,000.00	HOLSTON LIGHTING & POWER		08/25/2010	129,492.44	149,160.00
500,000.00	IDAHO POWER		09/01/2008	498,111.67	480,200.00
1,000,000.00	ILLINOIS POWER CO		09/01/2016	944,704.41	943,900.00
500,000.00	IOWA ILLINOIS GAS & ELECTRIC		08/15/2006	499,343.23	468,450.00
1,000,000.00	IOWA PUBLIC SERVICE		09/01/2009	910,408.64	1,005,100.00
200,000.00	KANSAS CITY POWER & LIGHT		07/27/2002	677,299.88	795,240.00
1,300,000.00	LACLEDF GAS CO		05/01/2011	1,300,000.00	1,219,010.00
500,000.00	LONG ISLAND LIGHTING		04/30/1995	500,000.00	395,650.00
2,000,000.00	LOUISIANA POWER & LIGHT		10/31/2016	1,950,240.88	2,031,600.00
1,965,000.00	MOL RESOURCES GROUP INC		11/15/2010	1,965,000.00	2,099,395.50
4,764,000.00	MUDL RESOURCES GROUP INC		09/15/2011	4,743,613.85	4,494,357.60
2,000,000.00	MASSACHUSETTS ELECTRIC CO		06/01/2016	2,000,000.00	2,017,600.00
2,000,000.00	MICHIGAN CONSOLIDATED GAS		02/01/2017	1,881,339.79	1,911,800.00
400,000.00	MINNESOTA POWER & LIGHT		09/01/2006	400,000.00	376,200.00
1,000,000.00	MINNESOTA POWER & LIGHT		09/01/2007	1,000,000.00	910,400.00
3,000,000.00	MONONGAHLA POWER		07/01/2017	2,990,289.92	2,937,390.00
600,000.00	MONTANA POWER		04/01/2001	601,682.15	515,740.00
500,000.00	MONTANA POWER		03/01/2004	500,609.19	455,700.00
1,000,000.00	MONTANA POWER		04/01/2009	995,593.23	993,700.00
3,000,000.00	MOUNTAIN FIFTH SUPPLY CO		04/15/2010	1,933,084.83	1,947,400.00
2,000,000.00	NATIONAL RURAL UTILITIES		01/01/2016	2,524,540.83	2,907,600.00
980,000.00	NATIONAL RURAL UTILITIES		02/01/2009	940,555.28	971,572.00
2,469,000.00	NFW ENGLAND POWER CO		02/01/2011	2,456,241.25	2,603,801.40
4,000,000.00	NFW ENGLAND POWER CO		03/01/2016	3,985,444.75	3,906,000.00
1,000,000.00	NEW YORK STATE ELECTRIC & GAS		03/01/2005	988,629.34	971,100.00
300,000.00	NIAGARA MOHAWK POWER		05/01/1998	243,456.19	254,610.00
400,000.00	NIAGARA MOHAWK POWER		12/01/2003	314,064.89	356,520.00
2,000,000.00	NIAGARA MOHAWK POWER		01/01/2016	2,000,000.00	2,014,400.00
2,000,000.00	NIAGARA MOHAWK POWER		07/01/1997	1,997,540.42	1,997,200.00
1,000,000.00	NORTHWEST NATURAL GAS		07/01/2011	935,730.35	965,100.00
2,500,000.00	OHIO EDISON		07/15/2019	2,477,134.16	2,415,500.00
1,000,000.00	ORYX ENERGY CO		09/15/2018	1,007,391.88	1,011,700.00
500,000.00	OTTAWA TAIL. POWER		11/01/2005	500,000.00	508,550.00

## Year End Portfolio Report as of 06/30/1990

61059506

TEACHERS RETIREMENT

PAR	ISSUER	COMP	Maturity	Rank	Value	Market Value
1,000,000.00	PACIFIC GAS & ELECTRIC	8,00000	06/01/2003	139	999,12	170,772.00
1,000,000.00	PACIFIC GAS & ELECTRIC	7,75000	06/01/2005	756	238,87	879,900.00
500,000.00	PACIFIC GAS & ELECTRIC	10,12500	08/01/2012	493	166,57	510,000.00
1,000,000.00	PACIFIC GAS & ELECTRIC	9,40000	04/01/2019	987	329,15	972,300.00
2,000,000.00	PACIFIC GAS & ELECTRIC	9,00000	08/01/2019	1,927	168,94	1,855,800.00
2,000,000.00	PACIFIC GAS & ELECTRIC	10,00000	05/01/2020	1,979	593,81	2,019,200.00
400,000.00	PENNSYLVANIA ELECTRIC	6,25000	11/01/1996	341	412,39	345,600.00
100,000.00	PENNSYLVANIA POWER & LIGHT	5,62500	06/01/1996	56	827,64	85,150.00
500,000.00	PENNSYLVANIA POWER & LIGHT	7,50000	01/01/2003	479	217,26	437,100.00
2,000,000.00	PENNSYLVANIA POWER & LIGHT	3,50000	10/01/2016	2,000	000,00	1,945,000.00
2,000,000.00	PENNSYLVANIA POWER & LIGHT	10,00000	01/01/2019	1,987	621,31	2,019,200.00
1,000,000.00	PHILADELPHIA ELECTRIC	10,25000	11/01/2016	917	804,77	1,010,000.00
3,000,000.00	PHILADELPHIA ELECTRIC	12,12500	10/15/2016	2,711	437,11	3,318,600.00
500,000.00	POTOMAC ELECTRIC POWER	4,50000	05/15/1999	426	540,54	364,040.00
1,500,000.00	POTOMAC ELECTRIC POWER	9,75000	05/01/2019	1,475	152,70	1,514,100.00
500,000.00	PUBLIC SERVICE COLORADO	9,25000	10/01/2008	500	000,00	485,400.00
200,000.00	PUBLIC SERVICE NEW HAMPSHIRE	7,62500	06/15/2002	200	000,00	171,900.00
2,000,000.00	PUBLIC SERVICE OKLAHOMA	9,00000	05/01/2016	1,991	378,48	1,877,000.00
544,000.00	PUBLIC SERVICE ELECTRIC & GAS	5,75000	04/01/2006	436	732,10	520,316.00
2,000,000.00	PG&GT ENERGY INC	9,37500	06/01/2017	1,578	545,35	1,920,000.00
3,000,000.00	SERRA PACIFIC POWER	9,75000	07/01/2016	3,000	000,00	2,958,900.00
500,000.00	SOUTH CAROLINA ELECTRIC & GAS	10,12500	04/01/2009	496	866,68	514,650.00
1,000,000.00	SOUTHERN CALIFORNIA EDISON	9,50000	07/01/2020	1,000	000,00	985,600.00
3,000,000.00	SOUTHERN CALIFORNIA GAS	9,37500	03/01/2016	2,973	737,68	2,886,300.00
5,000,000.00	SOUTHERN UNION CO	10,50000	05/15/2017	4,937	729,57	5,075,000.00
5,500,000.00	SOUTHWEST GAS CORP	9,37500	02/01/2017	5,329	246,49	5,320,700.00
500,000.00	SOUTHWESTERN PUBLIC SERVICE	8,75000	01/01/2008	500	000,00	468,100.00
500,000.00	TEXAS ELECTRIC SERVICE CO	9,50000	02/01/2009	465	218,49	483,200.00
2,000,000.00	TEXAS NEW MEXICO POWER	10,00000	07/01/2017	1,991	407,64	2,016,200.00
6,000,000.00	TEXAS UTILITIES ELECTRIC	9,75000	05/01/2016	5,957	929,32	5,864,400.00
250,000.00	TIGSON GAS & ELECTRIC PP	4,55000	02/01/1995	250	000,00	196,887,50
1,200,000.00	UTAH POWER & LIGHT	9,12500	05/01/2008	1,200	000,00	1,151,040.00
1,000,000.00	UTAH POWER & LIGHT	9,37500	10/01/2016	958	043,56	960,100.00
2,000,000.00	UTAH POWER & LIGHT	9,87500	05/01/2017	1,970	318,30	1,995,200.00
2,000,000.00	VIRGINIA ELECTRIC POWER	9,87500	06/01/2017	1,973	060,.82	2,004,800.00
1,000,000.00	WASHINGTON GAS LIGHT	8,62500	03/01/2017	209	133,32	908,700.00
2,000,000.00	WISCONSIN ELECTRIC POWER	9,55000	04/15/2023	1,978	018,20	2,029,400.00
100,000.00	WISCONSIN POWER & LIGHT	8,57500	10/01/2000	95	489,97	102,520.00
176,765,789.37	Subtotal for ELECTRIC & GAS			172	428,793,60	173,024,559,49
2,000,000.00	AMERICAN EXPRESS CREDIT CORP	11,25000	07/01/2000	1,859	405,04	2,007,800.00
1,216,250.00	AMERICAN GENERAL INSURANCE CO	9,37500	12/15/2003	1,167	545,13	1,141,237,13
250,000.00	CNA FINANCIAL CORP	8,50000	12/15/1995	249	727,26	241,500.00
290,591.83	CHANNELVIEW LEASING CO PP	9,26000	07/15/1996	290	599,81	258,205,36
300,000.00	CLARK EQUIPMENT CREDIT CORP	7,85000	12/15/1991	300	000,00	294,810,00
100,000.00	COMMERCIAL CREDIT	7,75000	02/15/1992	98	553,92	98,240,00
300,000.00	CRESTAR FINANCIAL CORP	7,75000	03/15/1997	262	722,30	273,916,00
2,000,000.00	FIREMANS FINN CORP	9,67000	10/15/2016	1,890	516,05	1,955,000.00
750,000.00	FIREMANS FUND MORTGAGE CORP	8,22000	11/01/1996	698	616,02	707,500.00
2,800,000.00	HOUSEHOLD FINANCE CORP	9,462500	06/15/2004	596	957,87	2,726,160.00
3,000,000.00	WWII COMPANIES INC	10,75000	03/15/1996	2,993	623,68	3,053,700.00

## Year End Position Report as of 01/31/2019

## TFAA-HFRS RETIREMENT

61059506

PAR	Requester	Comptn	Maturity	Book Value	Market Value
200,000.00	NAVISTAR FINANCIAL CORP	3,625,000	03/01/1991	200,000.00	195,260.00
200,000.00	NAVISTAR FINANCIAL CORP	7,300,000	01/15/1994	839,240.92	794,250.00
2,000,000.00	NORDSTROM CREDIT INC	9,175,000	03/15/2016	1,995,716.51	1,818,600.00
2,000,000.00	OIL REFINING INTERNAT'L CORP	10,000,000	02/01/2018	1,991,284.23	2,014,000.00
1,000,000.00	TRANSAMERICA FINANCIAL	9,250,000	11/01/1996	991,044.20	980,100.00
340,000.00	TRANSAMERICA FINANCIAL	9,875,000	03/01/1999	317,206.93	389,610.00
151,106.549.53	Subtotal for FINANCE			18,795,076.53	19,064,421.49
1,000,000.00	FFDFRAI NATL MORTGAGE ASSOC	11,500,000	02/10/1995	1,097,439.86	1,100,600.00
1,500,000.00	FFDFRAI NATL MORTGAGE ASSOC	9,500,000	10/25/2019	1,757,615.46	1,785,354.00
2,300,000.00	Subtotal for FFDFRAI NATL MORTGAGE ASSOC			2,895,954.00	
1,935,458.43	GNMA 11/1254	9,500,000	07/120 '01)	1,979,655.48	1,956,327.02
570,296.39	GNMA 27854	9,000,000	11/15/2008	487,598.89	544,199.26
309,623.17	GNMA 31195	9,000,000	03/15/2003	267,525.81	295,143.19
710,681.07	GNMA 46249	10,000,000	12/15/2010	704,092.40	718,669.05
396,157.98	GNMA 65111	11,500,000	05/15/2013	354,072.05	424,731.35
203,770.44	GNMA 65624	11,500,000	05/15/2013	147,539.39	215,462.89
582,203.45	GNMA 65750	10,000,000	07/15/2013	576,697.62	588,955.06
982,261.64	GNMA 252365	9,500,000	07/15/2018	979,872.72	963,343.63
1,914,308.09	GNMA 276327	9,500,000	03/15/2019	1,920,756.82	1,896,550.31
7,681,791.15	Subtotal for MORTGAGE--GNMA			7,447,811.18	7,606,654.16
7,074.57	KOIBFRG KRAVITS ROBERTS & CO	0.000000		707,487.00	886,714.68
7,074.87	Subtotal for KOIBFRG KRAVITS 1986			707,487.00	886,714.68
\$7,605.12	KOIBFRG KRAVITS ROBERTS & CO	0.000000		3,760,512.00	9,176,811.54
\$7,605.12	Subtotal for KOIBFRG KRAVITS 1987			3,760,512.00	9,176,811.54
3,500,000.00	AMR CORP	9,000,000	09/15/2016	3,348,601.79	3,176,950.00
500,000.00	AMERICAN HOSPITAL SUPPLY CORP	7,555,000	09/15/2007	499,143.26	432,200.00
1,000,000.00	ARCHER DANIELS MIDLAND	10,250,000	01/15/2006	994,161.54	1,077,400.00
500,000.00	ARMCO STEEL	9,200,000	07/15/2000	411,128.32	457,550.00
2,000,000.00	REFRESHTR HATHAWAY	10,000,000	01/01/2013	1,981,644.74	2,077,400.00
128,000.00	REFRESHTR HATHAWAY PP	8,000,000	03/01/1993	128,000.00	124,810.64
500,000.00	BETHI FHFM STEEL	9,450,000	03/01/2005	500,000.00	443,400.00
200,000.00	CORNING GLASS WORKS	7,750,000	11/15/1948	176,961.50	181,390.00
2,000,000.00	DAYTON HUTSON CORP	9,500,000	10/15/2016	1,932,451.38	1,972,600.00
1,000,000.00	DAYTON HUTSON CORP	9,250,000	11/15/2016	912,207.21	913,600.00
2,000,000.00	DILLARD DEPARTMENT STORE	9,500,000	10/15/2001	2,000,000.00	1,988,400.00
2,560,000.00	FASTMAN KODAK	9,375,000	03/15/2003	2,478,244.43	2,469,612.00
2,000,000.00	FASTMAN KODAK	9,375,000	11/01/2004	1,996,419.18	2,025,500.00
3,500,000.00	SALOMON	11,750,000	03/01/2005	3,496,475.52	4,021,160.00
2,500,000.00	ENRON CORP	9,500,000	09/15/1973	2,472,483.04	2,498,750.00
2,000,000.00	FTHY CORP	9,175,000	12/15/2016	1,953,814.16	1,909,200.00
2,000,000.00	GENERAL ELECTRIC CO	8,625,000	04/01/2016	1,723,010.66	1,868,600.00
1,000,000.00	GENERAL MILLS	9,375,000	03/01/2009	770,118.46	997,900.00

Year End Portfolio Report as of Dec. 31, 1990

**TRACIERS RETIREMENT**

Market Value

PAR	ISSUER	Category	Maturity	Rank	Value
2,000,000.00	GEORGIA PACIFIC	10.12500	05/15/2000	1,993,603.64	1,976,400.00
2,000,000.00	GEORGIA PACIFIC	9.75000	01/15/2018	1,958,641.87	1,849,000.00
291,960.09	HOOKER CHEMICAL PP	10.50000	06/29/1996	291,960.09	294,651.87

200,000.00	INGERSOLL RAND	8.05000	03/01/2004	146,938.59	180,190.00
500,000.00	INLAND STEEL	7.50000	01/01/2007	478,982.28	480,000.00
500,000.00	INLAND STEEL	7.50000	01/15/2007	500,000.00	400,000.00
500,000.00	KRAFTCO	9.37500	04/15/2004	423,803.67	456,500.00
774,137.45	LUCKY STORES PP	16.00000	10/29/2001	774,137.45	530,052.92
130,009.35	LUCKY STORES PP	16.00000	10/21/2001	110,000.39	139,370.55
36,284.89	LUCKY STORES PP	16.00000	10/10/2001	96,284.89	103,239.67
1,000,000.00	NAPCO INC.	11.75000	05/01/2003	1,052,324.79	1,065,200.00
2,000,000.00	NAY DEPT. STORES	9.12500	12/01/2016	1,865,019.44	1,861,680.00
1,000,000.00	NAY DEPT. STORES	10.37500	07/01/2018	1,000,000.00	1,018,200.00
407,000.00	RAY MCDERMOTT & CO	10.00000	12/01/1999	378,706.26	404,720.30
1,500,000.00	McDONALDS CORP	9.75000	05/01/2012	1,451,189.50	1,507,200.00
1,850,000.00	MOTOROLA INC	8.00000	10/01/2007	1,367,363.85	1,635,595.00
300,000.00	NATIONAL STEEL CORP	9.37500	08/01/2006	300,000.00	255,930.00
100,000.00	NAVISTAR INTERNATIONAL CORP	6.25000	03/01/1998	100,000.00	82,220.00
100,000.00	OUTBOARD MARINE CORP	7.75000	02/01/1976	90,558.41	91,137.00
480,000.00	IG PENNYY	9.00000	06/15/1999	469,462.00	477,216.00
2,500,000.00	IG PENNY	9.37500	03/01/2016	2,356,228.17	2,417,500.00
1,000,000.00	PHILIP MORRIS COS INC	9.70000	12/15/1995	1,000,000.00	1,018,500.00
1,000,000.00	PHILIP MORRIS COS INC	8.37500	01/15/2017	874,046.12	883,100.00
2,000,000.00	PHILIP MORRIS COS INC	9.50000	08/01/1995	1,995,610.77	2,012,400.00
1,500,000.00	PHILIP MORRIS COS INC	9.50000	12/15/1998	1,478,812.50	1,522,650.00
6,000,000.00	RJR NABISCO	9.37500	02/01/2017	5,425,228.45	4,864,200.00
167,211.18	RESEARCH PROPERTIES INC PP	8.25000	11/01/1993	167,211.18	153,554.98
2,000,000.00	REVOLV INC	10.87500	07/15/2010	1,905,477.86	1,504,900.00
1,000,000.00	ST REGIS PAPER	10.62500	06/15/2010	1,974,181.08	1,023,200.00
2,000,000.00	SARA LUFF CORP	9.75000	05/15/2016	1,882,271.36	1,803,600.00
1,500,000.00	SCOTT PAPER	10.00000	03/15/2005	1,498,035.25	1,519,800.00
2,000,000.00	SUNSTRAND CORP	9.37500	05/01/2016	1,875,040.13	1,902,600.00
2,000,000.00	SUPER VALUE STORES	8.87500	04/01/2016	1,869,092.85	1,810,000.00
354,787.87	SYSTEMS BUILDING CORP PP	9.00000	07/01/1997	354,787.87	331,081.07
1,247,000.00	TRW INC	9.87500	04/15/2000	1,187,784.47	1,262,213.40
1,000,000.00	TRW INC	11.37500	11/15/2015	1,000,000.00	1,016,100.00
1,000,000.00	TEXTRON INC	9.50000	12/15/2016	949,029.86	918,250.00
3,000,000.00	TEXTRON INC	9.25000	04/01/2017	2,933,075.43	2,650,500.00
4,000,000.00	USG CORP	9.75000	03/01/2017	3,775,405.97	2,240,000.00
1,000,000.00	UNION CARBIDE CORP	8.50000	01/15/2005	724,803.83	895,700.00
2,000,000.00	UNITED TECHNOLOGIES	9.87500	12/15/2016	1,856,813.47	1,826,400.00
2,000,000.00	WITCO CHEMICAL	9.50000	08/15/2003	1,899,265.05	1,946,800.00
2,000,000.00	XEROX CORP	9.62500	10/15/2000	2,000,000.00	1,987,800.00
4,246,000.00	YOUNGSTOWN SHFT & TIRF CO PP	4.60000	07/01/1995	380,-458.46	109,-440.56

87,612,390.86 Subtotal for NON OII

2,177,123.30 AMOCO CO

500,000.00 AMOCO CO

1,430,625.00 AMPROP FINANCIAL CORP

2,000,000.00 ASHL AND OII

2,775,000.00 ATLANTIC RICHFIELD

87,109,430.12

81,566,043.36

2,220,734.78

398,235.11

453,400.00

1,585,875.14

2,032,300.00

2,504,160.00

## Year End Portfolio Report as of Dec 31, 2019

61055506

FATHER'S RETIREMENT

PAR	Investment Type	Company	Maturity	Rank	Value	Market Value
1,000,000.00	RP AMERICA INC	9,50000	06/15/2017	951,923.31	985,300.00	985,300.00
1,500,000.00	RP AMERICA INC	9,87500	01/15/2018	1,500,000.00	1,525,200.00	1,525,200.00
4,000,000.00	CHEVRON CAPITAL USA INC	9,75000	07/15/2017	3,956,938.78	6,019,600.00	6,019,600.00
500,000.00	CHEVRON CORP	8,7,000	07/01/2005	4,26,294.54	4,78,050.00	4,78,050.00
150,000.00	CHEVRON USA INC	6,6,2500	06/15/1993	146,272.85	141,300.00	141,300.00
2,000,000.00	COROCO INC	9,47500	04/01/2003	1,362,158.38	? ,004,200.00	? ,004,200.00
300,000.00	KPR SIGGIE CORP	7,00000	11/01/2011	200,470.00	226,470.00	226,470.00
250,000.00	MARATHON OIL	5,3,0000	02/01/2000	241,798.00	225,425.00	225,425.00
5,000,000.00	OIL INDUS'AL PETROFLY	11,7,0000	03/15/2011	4,918,326.18	5,177,500.00	5,177,500.00
775,000.00	OXY OIL & GAS USA INC	6,6,2500	08/01/1999	742,176.89	628,215.00	628,215.00
1,000,000.00	PENNZOIL CO	7,0,2500	11/15/1999	936,719.75	1,005,500.00	1,005,500.00
1,500,000.00	PENNZOIL CO	10,1,2500	08/01/2011	1,465,065.45	1,490,250.00	1,490,250.00
2,000,000.00	PENNZOIL CO	10,1,2500	11/15/2009	1,982,758.75	2,047,000.00	2,047,000.00
200,000.00	SHELL OIL	7,2,25000	02/15/2002	1,18,750.42	171,760.00	171,760.00
219,952.68	STANDARD OIL OF CALIFORNIA PP	7,0,0000	01/01/1999	219,952.68	196,791.95	196,791.95
1,035,000.00	STANDARD OIL OHIO	8,3,7500	03/15/2007	923,037.15	930,361.50	930,361.50
1,000,000.00	TEXACO INC	8,87500	05/01/2005	901,361.25	958,400.00	958,400.00
1,000,000.00	TEXACO INC	8,50000	04/01/2006	867,954.20	726,700.00	726,700.00
964,900.00	TEXAS OIL & GAS	11,50000	11/01/2002	973,939.48	1,036,607.25	1,036,607.25
307,278.93	TEXON OIL CO OF CALIFORNIA PP	7,5,0000	01/01/1998	307,278.93	307,278.93	307,278.93
13,664,879.91	Subtotal for OTI			31,965,992.47	33,312,336.92	33,312,336.92
165,500.00	FEDERAL HOME LOAN MORTGAGE	8,70000	09/15/2007	165,022.30	154,394.95	154,394.95
1,000,000.00	FEDERAL HOME LOAN MORTGAGE	9,30000	11/15/2020	952,397.44	971,250.00	971,250.00
155,473.38	CHIIF RESTON PROPERTIES PP	7,7,45000	12/20 1993	158,439.38	155,950.41	155,950.41
1,323,319.98	Subtotal for OTHER AGNCIES			1,275,859.62	1,281,595.86	1,281,595.86
2,000,000.00	AMERICAN PRESIDENT CO	11,00000	01/15/1996	2,000,000.00	2,029,200.00	2,029,200.00
152,152.21	CAITTE & HAW SUGAR CO PP	8,25000	09/24/1993	152,182.21	150,261.46	150,261.46
2,000,000.00	CORTEZ CAPITAL CORP PP	12,6,2500	05/15/2003	2,000,000.00	2,273,130.00	2,273,130.00
2,000,000.00	PANHANDLE EASTERN PIPELINE	10,37,00	11/01/2011	1,958,263.19	2,026,200.00	2,026,200.00
85,000.00	PLANTATION PIPELINE PP	4,50000	02/01/1994	50,623.31	74,814.45	74,814.45
113,500.00	PLANTATION PIPELINE PP	7,00000	02/01/1999	113,500.00	99,712.02	99,712.02
500,000.00	QESTAR PIPELINE CO	9,57500	06/01/2020	497,354.91	505,050.00	505,050.00
2,815,000.00	SPALAND SVC INC - SPRINTS C	10,6,0000	01/02/2011	2,815,000.00	2,005,863.20	2,005,863.20
4,000,000.00	TENNESSEE GAS PIPELINE INC	10,2,5000	05/15/2016	3,942,224.65	3,362,760.00	3,362,760.00
1,500,000.00	TENNESSEE GAS PIPELINE INC	9,3,7500	01/15/2017	1,432,604.81	1,414,275.00	1,414,275.00
2,000,000.00	TEXAS EASTERN TRANSMISSION	10,0,0000	10/01/2011	2,000,000.00	1,931,600.00	1,931,600.00
4,000,000.00	TRANSCONTINENTAL GAS PL	9,1,2500	02/01/2017	3,825,709.64	3,715,200.00	3,715,200.00
21,165,1632.21	Subtotal for OTHER TRANSPORTATION			20,847,462.74	21,098,081.13	21,098,081.13
1,697.50	SERRA VENTURES II LP	0,00000		168,750.00	164,136.39	164,136.39
1,014.25	CROSSPOINT VENTURE PARTNERS II LP	0,00000		101,425.28	94,620.41	94,620.41
1,350.00	ALTA SI'R DEBT PARTNRS II LP	0,00000		135,000.00	142,202.24	142,202.24
900.00	AVVENT VI LP	0,00000		30,000.00	89,244.91	89,244.91
541.95	SUMMIT VENTURES II LP	0,00000		54,945.58	45,058.56	45,058.56
1,406.25	WILLIAM BLAIR PARTNERS III LP	0,00000		140,625.00	128,162.80	128,162.80
500.00	YURA MOSELEY PARTNERS III LP	0,00000		90,000.00	95,665.50	95,665.50
1,012.50	ALTA IV LP	0,00000		101,250.00	92,014.98	92,014.98

Year End Partnership Report as of Dec. 31, 1990

61059506

TEACHERS RETIREMENT

PAR	Issuer	Common	Maturity	Rank	Value	Market Value
675.00	WELSH CARSON ANDERSON STOWF V	0.00000		67	500.00	66,237.08
750.00	SOUTH ATLANTIC PARTNERS IT I.P.	0.00000		75	000.15	73,347.00
529.03	THE HTL PARTNERSHIP III I.P.	0.00000		52	902.90	59,445.52
2,024.02	ADVENT PARTNERS V I.P.	0.00000		202	401.56	231,296.91
450.00	INTERWEST PARTNERS IV I.P.	0.00000		45	000.00	43,052.40
675.00	TFCH. PARTNERS WFST FUND IV	0.00000		67	500.00	64,920.52
3,441.20	O'DONNELL & MASUR I.P.	0.00000		344	120.40	356,422.20
225.00	SPROUT CAPITAL VI I.P.	0.00000		22	500.00	21,659.40
225.00	MATRIX PARTNERS III I.P.	0.00000		22	500.00	22,500.00
225.00	NFW ENTERPRISES ASSOC V I.P.	0.00000		22	500.00	22,500.00
18,031.70	Subtotal for LIMITED PARTNERSHIPS			1,803	169.87	1,816,117.50
26,314.51	AMERICAN RAIL RDX CAR PP	11,125.00	11/01/1990	26	834.51	26,797.70
3,000,000.00	BIRMINGHAM NORTHERN INC.	11,475.00	03/15/2015	2,961	158.05	3,171,700.00
726,000.00	GENERAL AMERICAN TRANS EQUTP	9,00000	11/15/1998	698	449.04	686,796.00
263,357.62	MISSOURI PACIFIC RR PP	9,75000	06/01/1994	263	357.62	272,254.23
100,000.00	ST LOUIS SOUTHWESTERN RR PP	9,00000	08/01/1991	100	000.00	100,558.00
400,000.00	SOUTHERN RR	7,375.00	11/15/1991	398	945.56	391,404.00
200,000.00	UNION PACIFIC RR	7,575.00	12/15/1996	189	206.55	185,900.00
2,000,000.00	UNION PACIFIC RR	8,50000	01/15/2017	1,723	850.13	1,747,400.00
500,000.00	UNION PACIFIC RR	7,70000	01/01/1991	500	000.00	496,725.00
7,216,192.13	Subtotal for RAILROAD			6,861	501.46	7,079,744.93
587.25	PH TECHNOLOGY INC			8,982.16	8,244.91	8,244.91
587.25	Subtotal for COMMON STOCK DISTRIBUTION			9,982.16	9,294.91	9,294.91
2,500,000.00	GENTFL CORP	9,50000	06/15/2016	2,473	231.24	2,362,750.00
295,000.00	CENTRAL TEL DELAWARE	8,12500	12/01/1998	262	073.00	276,975.50
500,000.00	CENTRAL TEL FLORIDA	7,65000	02/01/1997	500	000.00	466,500.00
225,000.00	CHESAP & POTOMAC TEL VIRGINIA	5,25000	05/01/2005	227	189.66	154,057.50
200,000.00	CHESAP & POTOMAC TEL WEST VA	5,00000	03/01/2000	146	290.02	147,490.00
200,000.00	CHESAP & POTOMAC TEL WEST VA	9,00000	05/15/2015	190	889.31	187,820.00
4,000,000.00	GTE CORP	9,17500	12/01/2016	3,307	516.03	3,735,600.00
2,000,000.00	GTE CORP	10,75000	09/15/2017	1,965	967.75	2,136,800.00
2,000,000.00	GTE CORP	10,10000	11/15/2017	2,000	000.00	2,054,000.00
3,000,000.00	GENFRAL TEL CALIFORNIA	9,17500	06/15/2026	2,838	948.75	2,903,100.00
200,000.00	GENFRAL TEL FLORIDA	7,50000	08/01/2002	199	224.72	174,160.00
2,000,000.00	GENFRAL TEL OF PENNSYLVANIA	8,975.00	12/01/2026	1,793	530.62	1,843,600.00
2,000,000.00	GENFRAL TEL OF THE SOUTH	9,50000	05/01/2027	1,944	703.82	1,940,400.00
2,000,000.00	GENFRAL TEL OF THE SOUTH	11,00000	10/15/2017	1,990	425.41	2,146,200.00
2,000,000.00	GENFRAL TEL SOUTHWEST	10,17,000	11/01/2017	1,973	150.68	2,069,600.00
505,000.00	MOUNTAIN STATES TEL & TEL	7,57,000	11/15/2016	393	929.05	439,158.00
1,500,000.00	NORTHWESTERN RELI TFI	9,50000	08/15/2016	1,466	027.91	1,478,700.00
150,000.00	OHIO RELI TFI	5,00000	02/01/2006	151	377.84	94,420.00
1,000,000.00	PACIFIC RELI	11,17,000	09/15/2024	1,076	038.79	1,095,100.00
25,000.00	PACIFIC TEL & TFI	6,50000	07/01/2003	13	361.59	19,977.50
1,500,000.00	PACIFIC TEL & TFI	9,6,000	11/01/2014	1,462	389.18	1,452,600.00
500,000.00	PACIFIC TEL & TFI	9,57,000	09/15/2016	500	000.00	505,700.00
4,000,000.00	PACIFIC TEL & TFI	9,7,000	07/01/2019	3,912	799.96	4,000,500.00

## Year End Financial Report as of Dec 31, 2010

## FACIFRS RETIREMENT

61057506

PAR	Lessor	Description	Maturity	Book Value	Market Value
\$50,000.00	SOUTH CENTRAL REIT TFI	\$ 27,000 12/01/2004	681,065.97	768,995.00	
250,000.00	SOUTHERN NEW ENGLAND TFI	\$ 12,500 05/01/2008	248,190.49	226,650.00	
100,000.00	SOUTHWESTERN REIT TFI	\$ 7,5000 06/01/2008	67,500.18	78,320.00	
1,350,000.00	SOUTHWESTERN REIT TFI	\$ 275,000 07/01/2005	1,242,133.02	1,235,925.00	
1,000,000.00	SOUTHWESTERN REIT TFI	\$ 6,2500 01/15/2013	964,765.04	992,700.00	
2,000,000.00	UNITED TFI OF FLORIDA	\$ 25,000 07/15/2016	1,982,618.26	1,906,200.00	
3,000,000.00	UNITED TFI OF FLORIDA	\$ 57,500 05/15/2017	2,914,615.64	3,021,000.00	
10,4500.00	UNITED TFI INDIANA PP	\$ 1,2500 04/01/2000	104,500.00	103,155.39	
.00,000.00	UNITED TFI MISSOURI PP	\$ 57,500 06/01/2003	20,000.00	16,106.00	
115,000.00	UNITED TFI NORTHWEST PP	\$ 75,000 09/01/1999	335,000.00	349,151.40	
106,500.00	UNITED TFI PENN PP	\$ 7,5000 06/01/2000	106,500.00	109,407.45	
				40,523,169.34	
41,416,000.00	Subtotal for TFI PHONE		40,087,156.93		
2,260,066.65	FOURTH LEG BARGE USGG XT	11,50000 12/31/2008	2,260,066.68	2,832,474.17	
5,018,942.70	MORSE STEAMSHIP TITF VIT	9,240000 08/28/2004	5,009,686.39	5,326,052.12	
355,363.85	SHIPCO XT		355,145.63	351,658.95	
1,000,000.00	1 STORM X SFRIFS USGG VT	9,10000 07/15/1994	1,000,000.00	1,027,500.00	
			8,624,613.70	9,537,691.24	
5,634,375.23	Subtotal for TITF VT				
2,000,000.00	US TREASURY NOTES	11,75000 11/15/1993	1,968,000.98	2,193,300.00	
3,000,000.00	US TREASURY NOTES	12,75000 04/15/1991	2,958,019.58	3,093,900.00	
5,000,000.00	US TREASURY NOTES	13,12500 05/15/1994	4,962,052.51	5,761,000.00	
2,700,000.00	US TREASURY NOTES	13,75000 07/15/1991	2,700,822.77	2,845,260.00	
1,000,000.00	US TREASURY NOTES	14,6,000 01/15/1992	2,062,439.91	2,095,000.00	
2,000,000.00	US TREASURY NOTES	11,250000 02/15/1995	1,102,394.97	1,105,000.00	
1,000,000.00	US TREASURY NOTES	10,37500 07/15/1992	1,998,528.86	2,076,500.00	
2,000,000.00	US TREASURY NOTES	8,75000 01/15/1993	6,977,385.63	6,060,000.00	
6,000,000.00	US TREASURY NOTES	8,47500 01/15/1997	997,437.93	1,020,400.00	
1,000,000.00	US TREASURY NOTES	9,60000 05/15/1995	2,002,464.26	2,057,600.00	
2,000,000.00	US TREASURY NOTES	8,75000 05/15/1991	947,327.44	1,005,300.00	
1,000,000.00	US TREASURY NOTES	5,62,000 10/15/1995	946,453.75	1,007,900.00	
1,000,000.00	US TREASURY NOTES	8,25,000 08/31/1991	999,774.00	994,700.00	
3,000,000.00	US TREASURY NOTES	8,25000 11/15/1994	2,367,166.59	2,982,300.00	
2,000,000.00	US TREASURY NOTES	8,25000 09/10/1993	1,990,860.62	1,294,400.00	
1,000,000.00	US TREASURY NOTES	8,50000 04/15/1997	984,973.56	1,002,400.00	
			35,696,101.12	37,300,360.00	
35,700,000.00	Subtotal for TREASURY NOTE				
494,236,823.62	Subtotal for TEACHERS RETIREMENT		490,125,270.58	495,947,631.16	
Venture Cap.		(3,382.33)		(3,856.85)	
Fund & Rtg.		117,243.00		117,943.00	
Mortgages		51,186,394.90		51,386,194.90	
STIP		46,292,500.00		46,293,500.00	
MTCP		74,163,054.58		100,932,658.40	
TOTAL		662,081,750.71		754,673,121.11	



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